

**To:** 'John Batchelder'[jbatchelder@envirosolve.com]; 'Oman, Jack'[Jack.Oman@bp.com]; Rodriguez, Dante[Rodriguez.Dante@epa.gov]  
**Cc:** Mattucci, Rich (BROWN & CALDWELL)[RMattucci@brwnncald.com]  
**From:** Jeryl Gardner  
**Sent:** Tue 8/11/2015 10:22:56 PM  
**Subject:** RE: Yerington - FMS Testing Options - Response requested

.....  
>>>>>  
Thanks, John.

That will be the best solution if that will work.

Thanks,

Jeryl R. Gardner, P.E., C.E.M.

Abandoned Mine Lands Program Coordinator  
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**From:** John Batchelder [mailto:jbatchelder@envirosolve.com]  
**Sent:** Tuesday, August 11, 2015 3:01 PM  
**To:** Jeryl Gardner; 'Oman, Jack'; Dante Rodriguez (rodriguez.dante@epa.gov)  
**Cc:** Mattucci, Rich (BROWN & CALDWELL)  
**Subject:** RE: Yerington - FMS Testing Options - Response requested

Jeryl,

In Jack's absence, I have been directed to respond to your suggestions so that we can remain responsive to the needs of the Pond B test. In response, Rich Mattucci contacted Pac Machine in Reno to explore different potential alternatives that might allow us to complete the tests as planned. Pac Machine is currently on-site with the site O&M crew to troubleshoot the Godwin Pump suction line issue. Pac Machine is confident that the pump has the ability to draw more fluid from the VLT Pond either with some replacement parts or prime the suction line with a pony pump and run the pump at a reduced pumping rate on the right side of the pump curve. We will have a status update when Pac Machine receives and installs the replacement parts tomorrow. Thanks.

John

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**From:** Jeryl Gardner [<mailto:JGARDNER@ndep.nv.gov>]  
**Sent:** Tuesday, August 11, 2015 10:17 AM  
**To:** 'Oman, Jack'; Dante Rodriguez ([rodriguez.dante@epa.gov](mailto:rodriguez.dante@epa.gov))  
**Cc:** Mattucci, Rich (BROWN & CALDWELL); John Batchelder  
**Subject:** RE: Yerington - FMS Testing Options - Response requested

Hi Jack,

Thanks for the information and alternatives analysis.

The thoughts below are not meant to be decisions/guidance, as that will come from EPA/Dante, but I did want to give you my viewpoint.

I think we need to complete the Pond B filling and testing, as well as the Pond C testing.

I don't like the idea of introducing additional fluid into the VLT/FMS ponds from the Slot as it reduces long-term capacity somewhat.

Nor, do I like the idea of using the VLT Sediment Pond, with unknown capabilities and potential for leaks that may or may not be captured.

Can you use the submersible pumps in the VLT Pond, the pumps that have been used to transfer fluid from Pond C to Pond B?

If not, can you use them in conjunction with water trucks, baker tanks, water stand, to more efficiently deliver fluid to Pond B?

What I'm looking for is another way to pump the VLT Pond without using the VLT Sediment Pond, and without introducing additional fluid into the VLT system.

I think your team has a more complete understanding of the system functionality, potential issues and

decision ramifications than we do, so I would look to you for additional alternative development.

I will be interested to see what Dante thinks/decides.

Thanks,

Jeryl

Jeryl R. Gardner, P.E., C.E.M.

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**From:** Oman, Jack [<mailto:Jack.Oman@bp.com>]  
**Sent:** Monday, August 10, 2015 10:57 AM  
**To:** Dante Rodriguez ([rodriguez.dante@epa.gov](mailto:rodriguez.dante@epa.gov)); Jeryl Gardner  
**Cc:** Mattucci, Rich (BROWN & CALDWELL); John Batchelder  
**Subject:** Yerington - FMS Testing Options - Response requested

Dante and Jeryl,

During the course of implementing the hydraulic test for the FMS Evaporation Ponds B and C the target source of fluid was to be pumped from the VLT Pond to sequentially fill the FMS Evaporation Ponds B and C up to the freeboard level. Once the FMS Evaporation Pond tests were completed the fluid would be pumped/siphoned back to the VLT Pond to maintain the pre-test fluid balance management plan. The proposed test incorporated the use of the existing Godwin Pump to transfer fluid from the VLT Pond to the FMS Evaporation Ponds.

The Godwin Pump was purchased as part of the EPA VLT Relining Project to replace the then existing VLT Pond pump system. The Godwin Pump was selected for purchase by EPA because it is a self-priming pump which negates the need to operate an auxiliary suction-line priming pump. In the VLT Pond Site Operation and Maintenance Manual EPA calculated the Godwin Pump would be able to provide approximately 18 feet of suction lift which would be able to drain a majority of the 20 foot deep VLT pond. The Manual advised setting the pump in a 2 foot depression if the entire pond needed to be emptied to the full 20 foot depth. During transfer of the fluids for the current hydraulic test the Godwin Pump reached its net positive suction head limit at only 12 feet. This correlates with 8 feet of fluid remaining in the VLT pond or approximately 6 feet of the VLT fluid that was no longer available for transfer to complete filling the FMS Evaporation Pond B. This pumping issue will affect planning for all pumping tasks that require removal of fluids from the VLT pond below the depth of 8 feet remaining.

In response to the pumping deficiency, submersible pumps were utilized to transfer the FMS

Evaporation C Pond inventory to the FMS Evaporation B Pond to continue the test. As of Wednesday the FMS Evaporation Pond C was at 2.6 feet and nearing the operational limit of what can be efficiently transferred to Pond B which is at 7.0'. The test would require approximately 250,000 to 275,000 gallons to complete filling. This volume can only be obtained from the VLT pond or the Slot pond to complete the test as originally planned.

Because of the changed circumstances, the test procedure now requires selecting an alternative to bring the FMS Evaporation Pond B to a conclusion and continue testing of the FMS evaporation Pond C primary liner. The alternatives are as follows:

**1. Suspend the FMS Evaporation Pond B filling at the 7.0 foot level, begin the stepped fluid transfer testing to Pond C.**

a. Pros:

- i. Pond testing will be completed in an expedient timeframe
- ii. No extra effort needed in bring additional fluid up from the VLT Pond or transfer from the Slot Pond
- iii. Completion of the test will permit fluid management to return to the original pre-test fluid management plan

b. Cons:

- iv. The upper foot of remaining capacity does not get tested in the B Pond and most likely not tested in the C Pond as this pond will be filled to a similar near capacity level.

**2. Finish filling the FMS Evaporation Pond B utilizing the VLT Sediment Pond.** Transfer the fluid remaining in the VLT Pond to the VLT Sediment Pond with the submersible pumps, then in turn pump the fluid from the VLT Sediment Pond to the FMS Evaporation Pond B with either the Godwin or Durco Pump.

c. Pros:

- v. Complete the B Pond test up to the 8-foot freeboard level with access to additional make-up fluid as needed to complete the C Pond test up to the 8-foot freeboard level
- vi. Completion of the test will permit fluid management to return to the original pre-test fluid management plan, post-test fluid remaining in the VLT Sediment would be transferred back to the VLT Pond.

d. Cons:

- vii. Additional time and effort needed for set up and transfer from the VLT Pond to the VLT Sediment Pond and in turn to the FMS Evaporation Ponds
- viii. The known probability of activating the VLT Sediment Pond leak detectors as the VLT Sediment Pond primary liner is known to have several defects in it. The VLT Sediment Pond remains as a facility of last resort for fluid transfer.

**3. Finish filling the FMS Evaporation Pond from the Slot Sediment Pond.** This alternative would transfer the fluid from the Slot Sediment Pond directly to the B and C Ponds as necessary to complete the test.

e. Pros:

ix. The Slot Sediment Pond pump system is already set up to do fluid transfers to the FMS Evaporation Ponds as a normal operational fluid management procedure

x. The Slot Sediment Pond pump is capable of pumping 260 gallons per minute and would complete the transfer much more quickly than transfer from the VLT Sediment Pond alternative (~2 days)

xi. Permits completing the hydraulic test up to the 8-foot freeboard level for both FMS Evaporation Ponds B and C

f. Cons:

xii. Once the 250,000+ gallons are transferred to the evaporation ponds, this fluid will need to be managed within the VLT Pond and FMS Evaporation Pond B and C. This would be a deviation from the pre-test fluid management plan.

**4. Finish filling the FMS Evaporation Pond from a combination of the Slot Sediment Pond and VLT Sediment Pond.** This combination would provide the additional make up fluid from three days of pumping from the VLT Sediment Pond for approximately 110,000 gallons and the remaining ~140,000 gallons from the Slot Sediment Pond.

g. Pros:

xiii. Permits completing the hydraulic test up to the 8-foot freeboard level for both ponds

xiv. Decreases the time required for the pump transfers and limits introduction of additional fluid from the Slot Sediment Pond requiring management at the FMS Evaporation Ponds or VLT Pond.

h. Cons:

xv. Requires additional effort for the VLT Sediment Pond transfer set up

xvi. Results with additional fluid to manage from the Slot Pond as compared to pre-test fluid management conditions

xvii. The known probability of activating the VLT Sediment Pond leak detectors as the VLT Sediment Pond primary liner is known to have several defects in it. The VLT Sediment Pond remains as a facility of last resort for fluid transfer.

Atlantic Richfield respectfully requests direction from EPA as soon as possible for completing the referenced evaporation pond tests.

Please let us know if you would like to discuss further. I will be out of the office Wednesday through Friday of this week. Feel free to contact Rich Mattucci and/or John Batchelder in my absence.

Thanks,

-jack

**Jack Oman**

Project Manager

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